

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

**RESPONSE UNDER RULE 116
EXPEDITED HANDLING PROCEDURES**

In re Patent Application of

Atty Dkt 30-543

LAINE et al

C# M#

Serial No. 09/787,629

Group Art Unit: 1731

Filed: March 21, 2001

Examiner: Alvo

Date: August 14, 2003

Title: METHOD AND APPARATUS FOR THE THICKENING OF FIBER SUSPENSIONS

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Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

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Sir:

RESPONSE/AMENDMENT/LETTER

This is a response/amendment/letter in the above-identified application and includes an attachment which is hereby incorporated by reference and the signature below serves as the signature to the attachment in the absence of any other signature thereon.

☐ **Correspondence Address Indication Form Attached.**

Fees are attached as calculated below:

Total effective claims after amendment	0	minus highest number		
previously paid for	20	(at least 20) =	0 x \$ 18.00	\$ 0.00

Independent claims after amendment	0	minus highest number		
previously paid for	3	(at least 3) =	0 x \$ 84.00	\$ 0.00

☐ First/second submission after Final Rejection pursuant to 37 CFR 1.129(a) (\$750.00) \$ 0.00

☐ Please enter the previously unentered filed

☐ Submission attached

Subtotal \$ 0.00

If "small entity," then enter half (1/2) of subtotal and subtract -\$ 0.00

☐ Applicant claims "small entity" status ☐ Statement filed herewith

Rule 56 Information Disclosure Statement Filing Fee (\$180.00) \$ 0.00

Assignment Recording Fee (\$40.00) \$ 0.00

Other: 0.00

TOTAL FEE ENCLOSED \$ 0.00

The Commissioner is hereby authorized to charge any deficiency, or credit any overpayment, in the fee(s) filed, or asserted to be filed, or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Account No. 14-1140. A duplicate copy of this sheet is attached.

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By Atty: Bryan H. Davidson, Reg. No. 30,251

Signature





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* * * * *

August 14, 2003

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P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE UNDER RULE 116

Sir:

The following comments are intended to be in complete response to the issues raised in the Examiner's "final" Official Action dated May 19, 2003, which set a nominal response due date of August 19, 2003. Favorable reconsideration and allowance of this application are therefore solicited.

The only issues remaining to be resolved in this application are the Examiner's art-based rejections. In this regard, claims 20, 26 and 28 have been rejected under 35 USC §103(a) as allegedly "obvious", and hence unpatentable, over Laakso in view of Reinhall '444, with or without Gervasi. White et al has been combined with such references and applied to reject claims 22-24 under 35 USC §103(a), while Reinhall '221 has been applied with Laakso, Reinhall '444, Gervasi, and White et al to reject claims 25 and 27 under that same statutory provision.

Applicants have realized that perhaps a significant difference between Laakso and the present invention has not yet been fully appreciated. Specifically, applicants note that it has not yet been explained that Laakso does **not** teach an apparatus for treating pulp, but instead teaches an apparatus for treating wood chips. Such a distinction is technically significant. As is well known, after debarking, logs are reduced to chips suitable for the subsequent pulping process, in which pulp is produced. The "ideal" chip size is usually considered to be about 20 mm long in the grain direction, and about 4 mm thick.

In continuous cooking, the chips are preheated in a steaming vessel before entering the digester to remove air and noncondensibles. The pulp is produced in the digester, when chips and cooking liquor are cooked at a high temperature. Following completion of the cook, hot spent liquor is extracted from the pulp. The pulp is washed and screened before bleaching, if any. This is also described also in the enclosed extract from "Pulp and Paper Manufacture", Vol. 5 Alkaline Pulping.

The present invention relates to an apparatus for treating pulp produced in cooking. Laakso's apparatus is used **prior to** cooking, when a raw material for cooking (i.e., chips) are treated. In fact, the Examiner will note that in Fig. 4 (col. 6, line 22-20) it is described how the chips are discharged from the Laakso apparatus to the top of a digester. Preferably, the apparatus of the present invention is used in screening of pulp.

In applicants' opinion, therefore, the combination of Laakso and Reinhall '444 is without merit and arbitrary, because they each relate to apparatus for treating respectively different material. The respective apparatus are also used at different process stages as explained above.

The Examiner still asserts that: "Laakso as Applicant removes excess liquid from the pulp with pumps (80) and (67)". However, the pump 80 of Laakso is part of a

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closed recirculatory loop in which liquid is removed from the vessel, but the liquid is returned to the vessel 12 (through line 79 after deaeration in a conventional separator (81). The chute 58, pump 67, drainer 63 and inlet 60 provide a recirculatory loop for providing liquid for entraining chips (col. 4, line 64-66). In the chute 58, the chips are entrained in liquid which is supplied through the inlet 60. A liquid level is established by throttling the discharge line from the drainer 63 through pump 64. The chute 73 for discharging the chips from the vessel 12 comprises part of the circulatory loop of the high-pressure feeder 14. The chute 73 is filled with liquid all the times, and the entire column of liquid from the liquid level provides a hydraulic head sufficient to overpressure the transfer device 14 (col. 5, line 9-15). In the applicants' opinion, therefore, Laakso does not dewater the chips at all.

The liquid recirculatory loops are essential features of the Laakso apparatus. The pumps are required to circulate liquid. This is a further reason why the combination of Laakso and Reinhall is without foundation.

Turning attention to the applied Gervasi reference, applicants note that the filter of Gervasi operates in such a manner that liquid with turbid particles is fed from above into the filter, and the filter cake is allowed to form on the precoat layer of the filter surface. The worm rotates slowly in close proximity to the filter surface and scrapes off the filter cake from the precoat layer. The filtered material is collected in the conical bottom portion of the device wherefrom the filtered material is removed via gate valve and suction pump only when the conical part is filled with such material (column 4, lines 48 through 58).

In fact, it should be understood that the true operation of the filter discussed in Gervasi is such that in the beginning of the operation cycle the entire device is filled with the liquid to be cleared. The filtering proceeds in such a manner that clear liquid is filtered through the filter surface and the filter cake is scraped down into the bottom

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cone. In other words, the filter cake as heavier material displaces the liquid from the bottom cone and gradually fills the bottom while new liquid is introduced into the device. The operation is continued until the bottom cone is filled whereafter the operation is shut down and the cone emptied.

Again, there is clearly no suggestion of impetus provided to the ordinarily skilled person to combine Gervasi with Laakso, because the purpose of the respective apparatus is so vastly different – namely, one is a filter, while the other a deaerator. Hence, even if it is assumed for the moment that Gervasi might somehow be combined with Laakso and Reinhall '444, the present invention would not result.

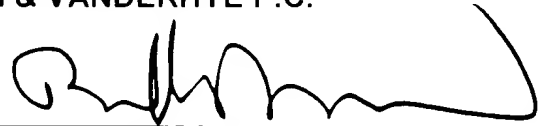
White et al and Reinhall '221 fail to cure the glaring deficiencies noted above with respect to Laakso, Reinhall '444 and Gervasi. As such, their combination with such references cannot possibly render obvious the subject matter of claims 22-24.

In view of the amendments and remarks presented herewith, applicants suggest that this application is in condition for prompt allowance, and Official Notice to that effect is solicited.

Respectfully submitted,

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